

**A. Cover Sheet** (Attach to front of proposal.)

1. Specify:            agricultural project or                 ☒ individual application or  
                            ☒ urban project    joint application
2. Proposal title -- concise but descriptive: Metering the El Macero Water Service Area of the City of Davis
3. Principal applicant -- organization or affiliation: City of Davis
4. Contact -- name, title: Jacques DeBra, Senior Utility Resource Specialist
5. Mailing address: 1717 Fifth Street, Davis California 95616
6. Telephone: (530) 757-5679
7. Fax: (530) 758-4738
8. E-mail: Water@dcn.davis.ca.us
9. Funds requested -- dollar amount: \$ 178,125.00
10. Applicant cost share funds pledged -- dollar amount: \$ 178,125.00
11. Duration (month/year to month/year): July 1, 2001 to June 30, 2002
12. State Assembly and Senate districts and Congressional district(s) where the project is to be conducted: 8<sup>th</sup> State Assembly District, 4<sup>th</sup> Senate District, and Congressional District 3.
13. Location and geographic boundaries of the project: Bounded by Solano County to the south, University of California Davis to the southwest, and City of Sacramento boundaries to the north (see map in Appendix I)
14. Name and signature of official representing applicant. By signing below, the applicant declares the following:  
  the truthfulness of all representations in the proposal;  
  the individual signing the form is authorized to submit the application on behalf of the applicant;  
  the applicant will comply with contract terms and conditions identified in Section 11 of this PSP.

(printed name of applicant)

(date)

(signature of applicant)

## SECTION B

### SCOPE OF WORK

This section consists of the scope of work. The relevance and importance of the project are described and its merit, feasibility, monitoring, and assessment are addressed.

#### **B.1 Relevance and Importance**

This section presents a summary of the project, a statement of water issues, and the scope and objectives of the project.

**B.1.1 Abstract.** This project consists of purchasing and installing water meters for customers in the last remaining unmetered portion of the City of Davis. The El Macero area of Davis contains 480 residential connections, 5 of which are metered, that are currently billed on a flat rate basis through Yolo County. The intent is to reduce water use by installing water meters and then encouraging conservation efforts that will result in water savings similar to levels achieved in the City of Davis.

**B.1.2 Water Issues, Need, and Consistency with other Plans.** The efficient use of California's limited water supplies is a critical local, regional, and state-wide water issue. The purpose of this project is to significantly increase water use efficiency by installing water meters. It is widely recognized that metering is an effective means of encouraging water use efficiency. Past retrofit efforts by other communities in the U.S. have resulted in a wide range of savings (16-50%) depending on service area characteristics, metered rate schedules, and overall water conservation program activities. Metering of customers will be particularly effective in the central valley area because of the dry hot summers that characterize the climate of the area. This climate pattern results in high outdoor water use during the summer months.

The City has an application on file with the State Water Resources Control Board to utilize surface water from the Sacramento River as part of its future water supply. This project will provide benefit to the Bay-Delta by ensuring that water diverted upstream is used efficiently. This project consists of the installation of water meters and implementing water conservation measures to an unmetered residential water system. The project is needed to achieve greater water use efficiency and minimize future local groundwater overdraft conditions and potential future water diversions from the Sacramento River. It is anticipated that the 475 meters installed under this project will result in water savings of approximately 135 acre-feet per year.

This project involves the implementation of urban water conservation best management practice (BMP) numbers 4 *Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections* and 11 *Conservation Pricing*, as defined by the California Urban Water Conservation Council (CUWCC). The unpredictable water supply and ever increasing demand on California's complex water resources have resulted in a coordinated effort by the California Department of Water Resources (DWR), water utilities, environmental organizations, and other interested groups to develop a list of urban BMPs for conserving water. This consensus-building effort resulted in the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU), which formalizes an agreement to implement these BMPs and makes a cooperative effort to reduce the consumption of California's water resources.

Like many of the Central Valley communities in California, the City historically did not meter its single-family residential customers. Because of the relatively low cost of water, retrofitting meters has not been cost effective. Water rates for residential customers were based on a flat monthly rate for any quantity of water use. This flat rate system lead to relatively high per capita water use as compared to other metered communities in the vicinity. A California law was passed in 1989 that required that all new connections in a water system to be metered after January 1, 1992. There was no requirement for reading the meters and billing based on water use.

This project is compatible with local water management plans and the City's ongoing efforts to achieve greater water use efficiency. The 1990 and 1995 Urban Water Management Plans for the City of Davis recommended retrofit metering on all non-metered connections as an approach to reliably reducing long-term water demands. The City has had an ordinance since 1989 requiring meters on new residential construction. Starting in 1990, the City initiated a water meter retrofit program by offering water meters to customers on a voluntary basis

In 1994, the City secured a \$3.8 million low interest loan (15-years, 2.5%) from the California Department of Water Resources to help fund the water meter retrofit program installations. The meters were installed under contract from 1995 to 1997. During this time period, 9,800 meters were installed for single family residential customers. The total project cost was \$4.725 million, which averages about \$480 per meter installed. All single family residential customers were converted from a flat rate to a new metered rate structure effective for water use beginning in September 1998.

**B.1.3 Project Nature, Scope, and Objectives.** This project consists of installing water meters and then implementing BMPs for the newly metered customers. The costs of the project primarily involve the purchase and installation of water meters. Approximately 475 meters will be installed.

The scope of the project consists of several tasks.

1. Develop action plan.
2. Finalize meter purchase and installation contract documents.
3. Competitive bid.
4. Purchase and install meters.
5. Implement conservation measures by El Macero homeowner's association for the newly metered customers.
6. Prepare project report.

The objectives of the project are to realize greater water use efficiency by having El Macero become a fully metered community as a part of the City's water system.

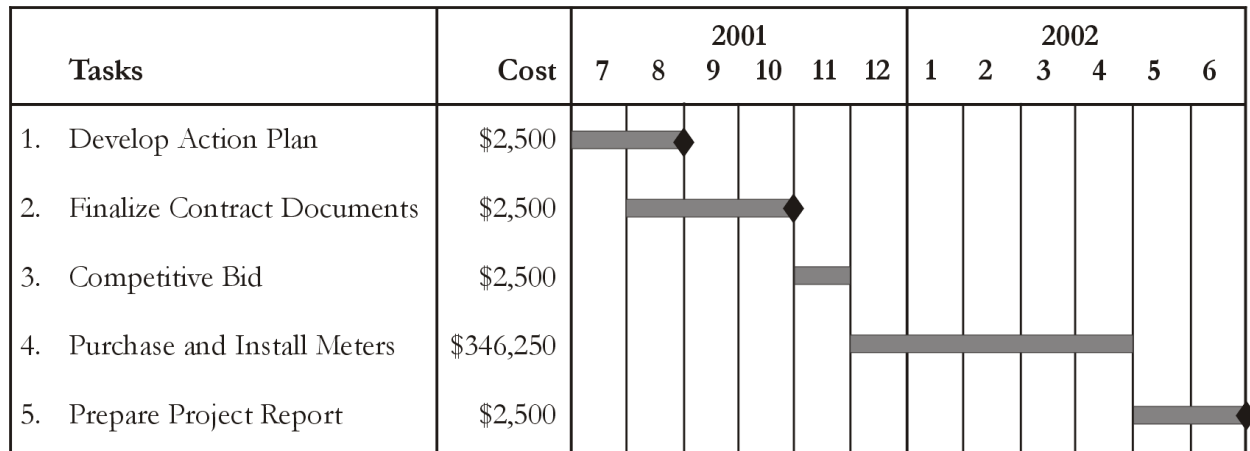
## **B.2 Technical/Scientific Merit, Feasibility, Monitoring, and Assessment**

This section describes the merit, feasibility, and the monitoring and assessment of the project.

**B.2.1 Methods, Procedures, and Facilities.** The City will use standard engineering, construction, and rate structure methods to implement this project. The methods and approach will be the same as that already successfully used by the City to install 9,800 residential meters. Standard purchasing and contracting procedures will be used to purchase meters and use a general contractor for meter installation. The City's metered rate structure was developed in 1996 and updated in 2000 by Brown

and Caldwell using accepted American Water Works Association (AWWA) rate making procedures. Subsequently, Brown and Caldwell conducted a water system audit, which identified El Macero water use as significant source of unaccounted-for water. To reduce unaccounted-for water and improve overall rate equity it was recommended that the El Macero service connections be metered in the future.

**B.2.2 Schedule.** A bar chart schedule is presented in Figure B-1. Table B-1 presents a quarterly expenditure projection.



◆ Deliverable items

**Figure B-1. Project Timeline**

**Table B-1. Quarterly Expenditure Projection**

Quarter	Months	Expenditure
1	July-September	\$4,167
2	October-December	\$72,583
3	January-March	\$207,750
4	April-June	\$71,750
Total		\$356,250

**B.2.3 Monitoring and Assessment.** The City will monitor and assess the before and after water use of newly metered customers. The City is already conducting a monitoring and assessment program for the meters previously installed. A report will be issued within two years of the completion of the project documenting the results. This report will contain two years of meter reading data and evaluation of before and after water use patterns. The information will be made available to the El Macero homeowner's association through various outreach methods.

## **SECTION C**

### **OUTREACH, COMMUNITY INVOLVEMENT, AND INFORMATION TRANSFER**

This section describes outreach efforts that will be made by the City of Davis during the project; training, employment, and capacity building potential the project provides; and the plan for disseminating information regarding the phases of the project.

#### **C.1 Outreach Efforts**

El Macero is currently an unmetered unincorporated residential development that is physically integrated with the City Water System. There are 443 single family residential customers and 37 condominium units. Because the project's scope of work is specifically to meter El Macero, outreach efforts will be generated by the El Macero homeowner's association for their residents. There will not be an opportunity to involve participation from people in disadvantaged communities, nor will there be a need to develop partnerships to complete the project. There are no tribal entities in the area that will be impacted by the project.

#### **C.2 Training, Employment, and Capacity Building Potential**

Once the project is underway, a contractor will be sought through competitive bidding to perform the actual installations of the meters. It is anticipated that the installation will require a crew of four to five workers. Once the meters are installed, there will not be a need for any new employment.

#### **C.3 Information Dissemination Plan**

The City of Davis staff provides its customers with proactive, responsive, and friendly service. The installation of water meters in the El Macero area is recommended to improve water management of the City's water system. The City realizes the critical role of public information and outreach to gain acceptance of this potentially controversial program. The following methods of communication and outreach will be considered and/or employed as determined by El Macero homeowner's association to effectively reach their residents.

*Educational materials* – Fact sheets about the metering program – written in easy to understand language – will be critical to successful public education. District activities, programs and accomplishments will be highlighted in regular newsletters. Customers will receive direct information through utility bill inserts, door hangers, and information kits.

*Media relations* – Public service announcements and editorial commentary in print and on electronic media are very effective and reach a large, diverse audience. The City's track record with past metering accomplishments will be highlighted in order to promote the El Macero metering project.

*Web site* – The City of Davis web site will keep the community updated on the project and visitors will have the ability to send e-mail to the project manager as a two-way line of communication.

*Public workshops* – It is important to offer a forum for the public to hear information first hand and ask questions about the water metering program. One approach is an educational workshop that

encourages customers to visit various interest tables that focus on specific information such as metering, water quality, water conservation, etc.

*Speakers bureau* – A group of trained speakers comprised of City of Davis staff will make presentations to the local homeowner's association about the metering program and other pertinent issues. In turn, the homeowner's association members can serve as ambassadors with their residences about the project.

*Customer Information hotline* – A direct line of communication must always be maintained to insure successful public information, therefore, a telephone hotline will be offered to provide immediate response to customer concerns. A City staff member knowledgeable about the metering project will be available to answer customer calls and will forward concerns to the project manager as needed.

*Program evaluation* – It is important to evaluate the public relations efforts throughout the project. This will ensure the information dissemination program plan is on track and meeting the plan goals and objectives. An informal focus group session will be held at the end of the first six months to determine which tactics have been effective and which areas may need to be revised to be more effective. At the end of the project, customers will be contacted to determine their level of satisfaction. The concerns of any unsatisfied customers will be addressed and resolved as quickly as possible.

#### **C.4 Letters of Notification**

There are no local land use entities, water districts, or other potentially impacted or cooperating agencies to be notified of this proposal.

## **SECTION D**

### **QUALIFICATIONS OF THE APPLICANTS, COOPERATORS, AND ESTABLISHMENT OF PARTNERSHIPS**

The qualifications of the project manager, cooperators, and partners to be involved in the metering program for El Macero are discussed in this section. A description of the City of Davis is also included.

#### **D.1 The City of Davis and Project Manager**

The City of Davis is located in the heart of the Central Valley Basin of California with the Sierra Nevada mountain range to the east and the Coast Range to the west. Davis exists in Yolo County, 13 miles west of Sacramento and 56 miles northeast of San Francisco. The residential development of El Macero is located in the southeast section of the city. The climate in the Central Valley is Mediterranean with sunny, hot, dry summers and mild, rainy winters. The average annual rainfall is approximately 17 inches.

The City's water system serves a population of 58,600 plus approximately 1,350 El Macero residents as of January 1, 2000 (estimate from Sacramento Area Council of Governments website). Davis is a unique university and residential community internationally known for its commitment to implementing progressive and innovative programs. The public works department also encourages water conservation through toilet and clothes washer rebate programs and water connection metering. The City of Davis Public Works website (<http://www.city.davis.ca.us/city/pworks/water/conserve.htm>) includes water conservation tips and guidelines to help practice efficient water use.

The City will co-manage the project with Yolo County and El Macero. Table 1 of Appendix II contains project contact information. El Macero receives water service from the City's water system through a water service agreement with Yolo County. Because of this relationship, all parties involved will coordinate project management responsibilities as a team with the goal of acceptance by El Macero residents.

#### **D.2 External Cooperators**

El Macero's homeowner's association will be an external cooperator for El Macero's metering program. The association will keep residents informed of program activities to ensure successful project completion with the community's cooperation.

#### **D.3 Partnerships Developed to Implement Project**

A partnership will be developed with Yolo County for El Macero's metering program. The City of Davis water utility division may partner with the wastewater division for this program, because any decrease in water use reduces the quantity of wastewater generated.

## SECTION E

### COSTS AND BENEFITS

This section describes both the quantifiable and non-quantifiable costs and benefits associated with the project. Included is a detailed budget summary and breakdown and justification. An assessment of costs and benefits that summarizes the costs and benefits of the proposed project is also provided.

#### **E.1 Budget Summary and Breakdown**

Table 1 in Appendix III presents a detailed estimated budget that includes salaries and wages, fringe benefits, supplies, equipment, services and consultants, travel and other direct costs. The table is a breakdown of the estimated costs between the local agency and the CALFED match.

A total project cost estimate is \$356,250. The local agency contribution will be 50 percent of total project costs. A funding request of \$178,125 from CALFED funding grants is requested to enable the proposed project to be implemented. Without CALFED funding the project cannot be implemented.

#### **E.2 Budget Justification**

The budget estimate was prepared by the City of Davis and Brown and Caldwell, a professional water engineering firm with extensive experience in managing and conducting water conservation projects like this metering project and Urban Water Management Plans. Brown and Caldwell is an approved consultant included in the California Urban Water Conservation Council's list of qualified consultants for the Year 2001.

#### **E.3 Benefit Summary and Breakdown**

This section lists the expected project outcomes and benefits of the proposed project.

a) **Quantifiable Project Outcomes and Benefits.** This project would reduce unaccounted water use in the City of Davis water system by an estimated 4%. It is anticipated that this project will result in the following:

- water savings of approximately 135 acre-feet per year;
- a total water savings benefit of \$894,215,
- a wastewater benefit of \$459,940.

This quantified outcome will benefit the City of Davis by improving rate equity between all user classifications and improving water system efficiency and system-wide water accountability. Metering El Macero will benefit CALFED by achieving greater water use efficiency and maximizing the usage of water diverted from the Sacramento River, and ultimately the Bay-Delta. Metering El Macero will increase water conservation awareness and reduce future water demands on the local groundwater basin and the Bay-Delta system.



**b) Non-quantifiable Project Outcomes and Benefits.** There are a few project benefits that can not be effectively quantified at this point in time. These are:

- 1) Improved local watershed ecosystem by decreased diversions from local creeks and reservoirs thereby benefiting in-stream uses like salmon spawning.
- 2) Energy savings as a result of less water pumped into the system.
- 3) Economic savings to customers as a result of less water used.

#### **E.4 Assessment of Costs and Benefits**

This section includes an assessment that summarizes the costs and benefits of the proposed project. The major analysis assumptions are listed and explained. This section also shows the present value of the quantified costs and benefits for the applicant and CALFED and summarizes non-quantified costs and benefits to the applicant and CALFED.

All quantified benefits and costs are expressed in year 2000 dollars using a six percent discount rate. A list of all major assumptions for the analysis of the quantifiable cost and benefits is as follows:

1. The amount of meters to be installed is 475.
2. This project will reduce water usage by 20%. This assumption is based on the *Memorandum of Understanding Regarding Urban Water Conservation in California*, as amended September 21, 2000. Page 25.
3. Project costs will average \$750 per meter, including meters, installation, and overhead. This assumption is based on City of Davis estimations.
4. The value of conserved water in City of Davis is \$331/ac-ft.
5. Single-family water usage is 1361 gpd, multi-family water usage is 184 gpd.
6. It will cost an average of \$17/yr to read and maintain one meter.
7. The lifetime of a meter is 20 years.
8. Wastewater savings is assumed to be 25% of water savings.
9. The value of conserved wastewater in the City of Davis is \$681/ac-ft.

The quantified costs and benefits to the City of Davis are shown in Table E-1. A summary of the non-quantified costs and benefits to City of Davis and CALFED are compiled in Table E-2.

**Table E-1. Summary of Qualified Costs and Benefits**

	Costs	Benefits			
	dollars	Water, dollars	Water, ac-ft	Wastewater, dollars	Wastewater, ac-ft
City of Davis	175,257	512,829	2,702	263,774	675
CALFED	168,042	None	2,702	None	675

**Table E-2. Summary of the Non-quantified Costs and Benefits**

Agency	Non-quantified costs	Non-quantified benefits
City of Davis	<ul style="list-style-type: none"> <li>• Possibly less revenue – due to declined customer use.</li> </ul>	<ul style="list-style-type: none"> <li>• More efficient water use.</li> </ul>
CALFED	None	<ul style="list-style-type: none"> <li>• More efficient water use.</li> <li>• More water for Bay-Delta.</li> </ul>

**APPENDIX I**  
**MAP OF EL MACERO**

## **APPENDIX II**

### **RESUMES**

## Appendix II

**Table 1. Project Management Team**

Name	Title	Agency
Jacques DeBra	Senior Utility Resource Specialist	City of Davis
Dave Rosenberg	Member of Board of Supervisors	Yolo County
Bill Dendy	El Macero resident	El Macero

**Jacques DeBra  
City of Davis  
Senior Utility Resource Specialist  
Contact Information: (530) 757-5679 office, (530) 758-4738 fax  
City of Davis Public Works, 23 Russell Blvd. Davis CA 95616**

Mr. DeBra has been working with the City of Davis for the past 11 years. He is responsible for managing the city's water conservation program, as well as many other utility functions in water, wastewater, and stormwater. He has worked in the water industry for 15 years and has been involved with many inter-agency partnerships during that time. In addition, Mr. DeBra has worked collaboratively with the California Department of Water Resources and other such agencies in the areas of funding, pilot programs, and involvement in the development of new efforts. The City of Davis is a signatory to the CUWCC MOU. Mr. DeBra is an active member of the American Water Works Association.

**APPENDIX III**  
**COST ESTIMATE**

### Appendix III

**Table 1. El Macero Meter Retrofit Project Cost Estimate**

	El Macero Total	CALFED Total	Total Project Cost
a. Labor	\$77,188	\$77,188	\$154,375
c. Supplies	\$71,250	\$71,250	\$142,500
d. Equipment	\$11,875	\$11,875	\$23,750
e. Prof. Services	\$0	\$0	\$0
f. Travel	\$0	\$0	\$0
g. Other	\$0	\$0	\$0
Contingency	\$17,813	\$17,813	\$35,625
<b>Project Total</b>	<b>\$178,125</b>	<b>\$178,125</b>	<b>\$356,250</b>

Note: Table reflects cost estimate for local agency to contract out meter installations.



Arden/Cordova

Summary of BMP Annual Interventions, Water Saved, and Cost			
Year	BMP 4: Install Meters		
	Interventions Per Year	Water Saved Per Year (ac-ft/yr)	Cost <sup>a</sup> Per Year (\$/yr)
1998	0	0	0
1999	0	0	0
2000	0	0	0
2001	37	135	178,754
2002	0	135	629
2003	0	135	629
2004	0	135	629
2005	0	135	629
2006	0	135	629
2007	0	135	629
2008	0	135	629
2009	0	135	629
2010	0	135	629
2011	0	135	629
2012	0	135	629
2013	0	135	629
2014	0	135	629
2015	0	135	629
2016	0	135	629
2017	0	135	629
2018	0	135	629
2019	0	135	629
2020	0	135	629
Total	37	2,702	190,705

<sup>a</sup>Costs are undiscounted costs.

**Appendix III.**  
**City of Davis**  
**Economic Analysis Worksheet**  
**BMP 4. Metering With Commodity Rates for all New Connections and Retrofit Existing Connections**

Calendar Year	Number of SF Meters Installed per year	Number of MF Meters Installed per year	Incremental Water Savings (AF/yr)	Annual Water Savings (AF/yr)	Annual Wastewater Savings (AF/yr)	Avoided Wastewater costs \$ (WW entity)	WW Discounted Benefits	Benefits (\$)						Costs (\$)							
								Avoided Capital Costs	Avoided Variable Costs	Avoided Purchase Costs	Water Undiscounted Benefits	Water Discounted Benefits	Total Discounted Benefits	Capital Costs	Total Discounted Costs	Capital Costs	Operating Expenses	Total Undiscounted Costs	Total Discounted Costs	Net Present Value (\$)	
														(CALFED)		(Agency)	(Agency)	(Agency)	(Agency)		
1999				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2000				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2001	438	37	135	135	34	22,997	21,695	0	44,711	0	44,711	42,180	63,875	178,125	168,042	178,125	629	178,754	168,636	-126,456	
2002			0	135	34	22,997	20,467	0	44,711	0	44,711	39,792	60,260	0	0	0	629	629	560	39,233	
2003			0	135	34	22,997	19,309	0	44,711	0	44,711	37,540	56,849	0	0	0	629	629	528	37,012	
2004			0	135	34	22,997	18,216	0	44,711	0	44,711	35,415	53,631	0	0	0	629	629	498	34,917	
2005			0	135	34	22,997	17,185	0	44,711	0	44,711	33,410	50,595	0	0	0	629	629	470	32,940	
2006			0	135	34	22,997	16,212	0	44,711	0	44,711	31,519	47,731	0	0	0	629	629	443	31,076	
2007			0	135	34	22,997	15,294	0	44,711	0	44,711	29,735	45,029	0	0	0	629	629	418	29,317	
2008			0	135	34	22,997	14,429	0	44,711	0	44,711	28,052	42,481	0	0	0	629	629	395	27,657	
2009			0	135	34	22,997	13,612	0	44,711	0	44,711	26,464	40,076	0	0	0	629	629	372	26,092	
2010			0	135	34	22,997	12,841	0	44,711	0	44,711	24,966	37,808	0	0	0	629	629	351	24,615	
2011			0	135	34	22,997	12,115	0	44,711	0	44,711	23,553	35,668	0	0	0	629	629	331	23,222	
2012			0	135	34	22,997	11,429	0	44,711	0	44,711	22,220	33,649	0	0	0	629	629	313	21,907	
2013			0	135	34	22,997	10,782	0	44,711	0	44,711	20,962	31,744	0	0	0	629	629	295	20,667	
2014			0	135	34	22,997	10,172	0	44,711	0	44,711	19,776	29,947	0	0	0	629	629	278	19,497	
2015			0	135	34	22,997	9,596	0	44,711	0	44,711	18,656	28,252	0	0	0	629	629	262	18,394	
2016			0	135	34	22,997	9,053	0	44,711	0	44,711	17,600	26,653	0	0	0	629	629	248	17,353	
2017			0	135	34	22,997	8,540	0	44,711	0	44,711	16,604	25,144	0	0	0	629	629	234	16,370	
2018			0	135	34	22,997	8,057	0	44,711	0	44,711	15,664	23,721	0	0	0	629	629	220	15,444	
2019			0	135	34	22,997	7,601	0	44,711	0	44,711	14,777	22,378	0	0	0	629	629	208	14,570	
2020			0	135	34	22,997	7,171	0	44,711	0	44,711	13,941	21,112	0	0	0	629	629	196	13,745	
Totals:	438	37	135	2,702	675	459,940	263,774	0	894,215	0	894,215	512,829		178,125	168,042	178,125	12,580	190,705	175,257	337,572	
						Value of conserved water (\$/AF) =	331												Benefit cost ratio:	2.9	
						Value of conserved wastewater (\$/AF) =	681												Simple pay-back period (years):	8	
						Discount rate (real) =	6%												Discounted cost / water saved (\$/acre-feet):	65	
						Single-family water usage (gpd/unit) =	1361														
						Multi-family water usage (gpd/unit) =	184														
						Water savings =	20%												NPV / water saved (\$/acre-feet):	125	
						Conservation measure unit cost (\$) =	750														
						Cost to read and maintain one meter (\$/year) =	17														
						Number of unmetered SF accounts =	438														
						Number of unmetered MF accounts =	37														

**Arden/Cordova**

**Table 6.3. Results of Economic Analysis of Water Conservation BMPs**

<b>BMP No.</b>	<b>BMP Name</b>	<b>Total Discounted Cost (\$)</b>	<b>Total Water Saved (acre-feet)</b>	<b>Benefit / Cost Ratio</b>	<b>Simple Payback Analysis (years)</b>	<b>Discounted Cost / Water Saved (\$/acre-feet)</b>	<b>Net Present Value / Water Saved (\$/acre-feet)</b>
4	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	175,257	2,702	2.9	8	65	125

Arden/Cordova

Year	Water Savings (acre-feet/year)	Discounted Cost
	BMP 4	BMP 4
2001	0	0
2002	0	0
2003	135	168,636
2004	135	560
2005	135	528
2006	135	498
2007	135	470
2008	135	443
2009	135	418
2010	135	395
2011	135	372
2012	135	351
2013	135	331
2014	135	313
2015	135	295
2016	135	278
2017	135	262
2018	135	248
2019	135	234
2020	135	196
Total	2,431	174,829

Value of  
conserved  
water (\$/AF) =

500